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EXAMINER

ENGLAND, DAVID E

ART UNIT PAPER NUMBER

2143

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,604

Applicant(s)

PENK ET AL.

Examiner

David E. England

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>3/21/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 43 are presented for examination.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show “the section E and F or the tree diagram located in Figure 5A” as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “grouping multiple devices of the plurality of devices into a plurality of tiers within the digital network” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, all the limitations that make up claim 16, “determining whether a particular transport stream identifier associated with a particular transport stream transmitted from a particular device of the multiple devices of a given tier is the same as one or more transport stream identifiers associated with other transport streams transmitted from one or more devices of the multiple devices of the given tier;

5. responsive to determining the particular transport stream identifier is not the same, associating the particular device with the particular transport stream identifier;

6. responsive to determining the particular transport stream identifier is the same, further including the steps of:

7. determining a new transport stream identifier for the particular transport stream, wherein the new transport stream identifier is different from other transport stream identifiers associated with transport streams transmitted from the multiple devices of the given tier;

8. transmitting a remap message to the particular device, wherein the particular device responds thereto by remapping the particular transport stream identifier associated with the particular transport stream to the new transport stream identifier; and

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9. associating the particular device with the new transport stream identifier.“
10. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
11. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “prior to the step of assigning, receiving a second network message from the plurality of devices, each second network message per device including an output transport stream identifier” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
12. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “determining whether the first plurality of devices is the same as the second plurality of devices; and responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message.” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
13. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “using the multiple network messages to determine a hierarchy of devices for the plurality devices” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

14. Claim 22 is objected to because of the following informalities: The limitation of "for the plurality devices" should be "for the plurality of devices". Appropriate correction is required.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 28 and 32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

17. The limitation of claims 28 and 32 state, “determining whether the first plurality of devices is the same as the second plurality of devices; and responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message.”, is not specifically found in the specification. What is found is “...the controller then knows that there exists a transport stream source that did not respond to the initial INTSM message. The controller can then send an alert to the operator of the system that the map is incomplete.” (page 24, line 32 – page 25, line 6). Applicant is asked to prove or deny this assumption by explaining sections of the main body of the specification in correlation to the Drawings.

18. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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19. Claims 16 – 22 and 33 – 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

20. The limitations of claim 16 that state, “determining whether a particular transport stream identifier associated with a particular transport stream transmitted from a particular device of the multiple devices of a given tier is the same as one or more transport stream identifiers associated with other transport streams transmitted from one or more devices of the multiple devices of the given tier”, and “determining a new transport stream identifier for the particular transport stream, wherein the new transport stream identifier is different from other transport stream identifiers associated with transport streams transmitted from the multiple devices of the given tier.” is not specifically stated as to how or where in the system this happens with regards to the Application’s main body of the specification and the Drawings. The Applicant is asked to point to specific section of the Drawings and how they correspond to the main body of the specification.

21. In claim 22, the limitation of “using the multiple network messages to determine a hierarchy of devices for the plurality devices”, is not specifically found in the main body of the specification. What is taught is the use of tiers and levels of said tiers. Examiner is not sure if this is the desired meaning which the Applicant intends for. The Applicant is asked to point to specific section of the Drawings and Main Body of the specification that would support or deny this assumption.

22. Claim 33 recites the limitation "the input port" in page 43, line 5. There is insufficient antecedent basis for this limitation in the claim.

23. Claim 34 recites the limitation "the new transport stream identifier" in page 44, line 2. There is insufficient antecedent basis for this limitation in the claim.

24. Claims 17 – 19 are rejected under 35 U.S.C. 112, second paragraph for their dependency to claim 16.

25. Claims 20, 21 and 35 – 43 are rejected under 35 U.S.C. 112, second paragraph for their dependency to claim 33.

Claim Rejections - 35 USC § 102

26. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

27. Claims 1 – 8, 20, 21, 33 – 36 and 39 – 43 are rejected under 35 U.S.C. 102(e) as being anticipated by Teraoka U.S. Patent No. 6292836.

28. Referencing claim 33, as closely interpreted by the Examiner, Teraoka teaches an apparatus in a digital network that receives a transport stream, the apparatus comprising:

29. a port adapted to receive the transport stream, wherein the transport stream has a transport stream identifier associated therewith, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”); and

30. a processor in communication with the input port, the processor adapted to monitor the transport stream identifier and respond to changes thereto by generating a network message, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

31. Referencing claim 34, as closely interpreted by the Examiner, Teraoka teaches the network message includes a second transport stream identifier, wherein the second transport stream identifier is the new transport stream identifier associated with the received transport stream, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

32. Referencing claim 35, as closely interpreted by the Examiner, Teraoka teaches the network message further includes a device identifier associated with the apparatus, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

33. Referencing claim 36, as closely interpreted by the Examiner, Teraoka teaches the network message is transmitted through the port, (e.g. col. 5, lines 1 – 11).

34. Referencing claim 39, as closely interpreted by the Examiner, Teraoka teaches a transmitter in communication with the processors the transmitter adapted to transmit a second transport stream that includes at least a portion of the received transport stream, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”); and

35. a second port adapted to receive and transmit messages, wherein the network message is transmitted through the second port, and the network message includes a device identifier associated with the apparatus, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

36. Referencing claim 40, as closely interpreted by the Examiner, Teraoka teaches the network message includes the current transport stream identifier associated with the received transport stream, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

37. Referencing claim 41, as closely interpreted by the Examiner, Teraoka teaches the second transport stream has a second transport stream identifier associated therewith, and the processor

receives a remapping message from the second port and responds thereto by remapping the second transport stream identifier associated with the second transport stream, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

38. Referencing claim 42, as closely interpreted by the Examiner, Teraoka teaches the processor receives an initiate mapping message from the second port and responds thereto by sending through the second port a network message having a device identifier associated with the apparatus and the transport stream identifier included therein, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

39. Referencing claim 43, as closely interpreted by the Examiner, Teraoka teaches the processor receives an initiate mapping message from the port and responds thereto by sending through the port a network message having a device identifier associated with the apparatus and the transport stream identifier included therein, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

40. Referencing claim 20, as closely interpreted by the Examiner, Teraoka teaches digital network further includes a plurality of transport stream receivers, which receive at least one transport stream, and further including the step of:

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41. receiving a message from multiple transport stream receivers of the plurality of transport stream receivers, each message per receiver including a device identifier and a transport stream identifier, which is associated with a transport stream received by the transport stream receiver, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

42. Referencing claim 21, as closely interpreted by the Examiner, Teraoka teaches each of the multiple transport stream receivers respond to and initiate mapping message by sending the message, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”).

43. Claims 1 – 8 are rejected for similar reasons as stated above.

44. Claims 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Rao U.S. Patent No. 6789118.

45. Referencing claim 9, as closely interpreted by the Examiner, Rao teaches a method of mapping a digital network that includes a plurality of devices that receive and transmit at least one transport stream, the method comprising the steps of:

46. grouping multiple devices of the plurality of devices into a plurality of tiers within the digital network, (e.g. col. 20, lines 24 – 40); and

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47. associating a first particular device of a first tier with a second particular device of a second tier of the digital network, wherein the second particular device receives a transport stream transmitted from the first particular device, (e.g. col. 20, lines 41 – 63).

48. Claim 10 is rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

49. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

50. Claims 11 – 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao as applied to claim 9 above, and in view of Hegde (6570875).

51. As per claim 11, as closely interpreted by the Examiner, Rao does not specifically teach prior to the step of grouping, further including the steps of:

52. transmitting an initiate mapping message to the plurality of devices; and

53. receiving a network message from the plurality of devices, each network message per device including an output transport stream identifier and a device identifier, wherein the transport stream identifier is associated with a transport stream transmitted by a device associated with the device identifier.

54. Hegde teaches prior to the step of grouping, further including the steps of:

55. transmitting an initiate mapping message to the plurality of devices, (e.g. col. 8, lines 7 – 17); and

56. receiving a network message from the plurality of devices, each network message per device including an output transport stream identifier and a device identifier, wherein the transport stream identifier is associated with a transport stream transmitted by a device associated with the device identifier, (e.g. col. 8, lines 18 – 32). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Hegde with Rao because it would be more efficient for a system to set up links, port id and addresses to different groups when the system is powered on so updated information that is on the system can be transmitted to the device to ensure that any changes in the network are propagated throughout the network to ensure timely transmission of newly installed devices or transmitted information.

57. As per claim 12, as closely interpreted by the Examiner, Rao does not specifically teach the step of grouping further includes the step of:

58. using the device identifier included in each of the network messages and a table to group the plurality of devices into tiers.

59. Hegde teaches the step of grouping further includes the step of:

60. using the device identifier included in each of the network messages and a table to group the plurality of devices into tiers, (e.g. col. 7, lines 15 – 26). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Hegde with Rao because of similar reasons stated above. Furthermore, if there were a group of permanent users it

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would be advantageous to store the group of users in a table so to reference them if needed in a multicast transmission circumstance.

61. As per claim 13, as closely interpreted by the Examiner, Rao each of the network messages further includes an input network stream identifier associated with a second transport stream, which is received by a device associated with the device identifier, (e.g. col. 20, lines 41 – 59).

62. As per claim 14, as closely interpreted by the Examiner, Rao the input network stream identifier includes a network transport stream source indicator, (e.g. col. 20, lines 41 – 59).

63. As per claim 15, as closely interpreted by the Examiner, Rao the network transport stream source indicator is a predetermined value for a device that is a source of a network transport stream in the digital network, (e.g. col. 20, lines 41 – 59).

64. Claims 16 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rao and Hegde as applied to claim 9 above, and in further view of Teraoka (6292836).

65. As per claim 16, as closely interpreted by the Examiner, Rao and Hegde do not specifically teach determining whether a particular transport stream identifier associated with a particular transport stream transmitted from a particular device of the multiple devices of a given

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tier is the same as one or more transport stream identifiers associated with other transport streams transmitted from one or more devices of the multiple devices of the given tier;

66. responsive to determining the particular transport stream identifier is not the same, associating the particular device with the particular transport stream identifier;

67. responsive to determining the particular transport stream identifier is the same, further including the steps of:

68. determining a new transport stream identifier for the particular transport stream, wherein the new transport stream identifier is different from other transport stream identifiers associated with transport streams transmitted from the multiple devices of the given tier;

69. transmitting a remap message to the particular device, wherein the particular device responds thereto by remapping the particular transport stream identifier associated with the particular transport stream to the new transport stream identifier; and

70. associating the particular device with the new transport stream identifier.

71. Teraoka teaches determining whether a particular transport stream identifier associated with a particular transport stream transmitted from a particular device of the multiple devices of a given tier is the same as one or more transport stream identifiers associated with other transport streams transmitted from one or more devices of the multiple devices of the given tier, (e.g. col. 6, lines 20 – 35);

72. responsive to determining the particular transport stream identifier is not the same, associating the particular device with the particular transport stream identifier, (e.g. col. 6, lines 20 – 35);

73. responsive to determining the particular transport stream identifier is the same, further including the steps of:

74. determining a new transport stream identifier for the particular transport stream, wherein the new transport stream identifier is different from other transport stream identifiers associated with transport streams transmitted from the multiple devices of the given tier, (e.g. col. 5, line 45 – col. 6, line 2);

75. transmitting a remap message to the particular device, wherein the particular device responds thereto by remapping the particular transport stream identifier associated with the particular transport stream to the new transport stream identifier, (e.g. col. 6, line 56 – col. 7, line 8); and

76. associating the particular device with the new transport stream identifier, (e.g. col. 6, line 56 – col. 7, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine systems of Rao and Hegde because remapping a message with a different transport stream identifier would ensure that no duplications in identifiers are given out to different system. Doing so would aid in miss-transmission of information to devices that did not request said information.

77. As per claim 17, as closely interpreted by the Examiner, Rao and Hegde do not specifically teach after the step of transmitting the remap message, further including the step of:

78. receiving another network message from a second particular device, wherein the second particular device receives the particular transport stream transmitted from the first particular

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device. Teraoka teaches after the step of transmitting the remap message, further including the step of:

79. receiving another network message from a second particular device, wherein the second particular device receives the particular transport stream transmitted from the first particular device, (e.g. col. 6, line 56 – col. 7, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine systems of Rao and Hegde because it would be more efficient for a system to reestablish communication with other network devices so the transfer of addresses and port numbers can be propagated throughout the network.

80. As per claim 18, as closely interpreted by the Examiner, Rao and Hegde do not specifically teach the second particular device sends the other network message responsive to the first particular device remapping the particular transport stream identifier associated with the particular transport stream. Teraoka teaches the second particular device sends the other network message responsive to the first particular device remapping the particular transport stream identifier associated with the particular transport stream, (e.g. col. 6, line 56 – col. 7, line 8). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine systems of Rao and Hegde because of similar reasons stated above.

81. As per claim 19, as closely interpreted by the Examiner, Rao teaches associating the particular device with at least one input transport stream identifier, wherein the network message

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from the particular device includes the at least one transport stream identifier, which is associated with the at least one transport stream received in the particular device, (e.g. col. 20, lines 41 – 59).

82. Claims 22 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuyo et al. (6829238) (hereinafter Tokuyo) in view of Rao (6789118).

83. Referencing claim 22, as closely interpreted by the Examiner, Tokuyo teaches a method of mapping a digital network, the method comprising:

84. assigning a unique transport stream identifier to each transport stream of a plurality of transport streams, wherein the plurality of transport streams are transmitted from a plurality of devices included in the digital network, (e.g. col. 4, lines 15 – 37, “...*assigns a unique identification number to the TCP...*” & col. 6, lines 5 – 26, “*IP packet, source and destination IP address, port number, unique identification number*”);

85. associating each assigned unique transport stream identifier with a particular device of the plurality of devices, wherein the particular device transmits the transport stream having the unique transport stream identifier assigned thereto, (e.g. col. 4, lines 15 – 37, “...*assigns a unique identification number to the TCP...*” & col. 6, lines 5 – 26, “*IP packet, source and destination IP address, port number, unique identification number*”);

86. transmitting to each device of the plurality each assigned unique transport stream identifier associated therewith, (e.g. col. 4, lines 15 – 37, “...*assigns a unique identification*”

number to the TCP...” & col. 6, lines 5 – 26, *“IP packet, source and destination IP address, port number, unique identification number”*);

87. receiving a network message from multiple devices of the plurality of devices, each network message including at least one input transport stream identifier, (e.g. col. 6, lines 5 – 26, *“IP packet, source and destination IP address, port number, unique identification number”*); but does not specifically teach using the multiple network messages to determine a hierarchy of devices for the plurality devices.

88. Rao teaches using the multiple network messages to determine a hierarchy of devices for the plurality devices, (e.g. col. 16, lines 24 – 48, *“User 1 has QoA level of one, User 2 has a QoA level of two, and User 3 has a QoA level of three.”*). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Rao with Tokuyo because it would be more efficient for the higher level users that system’s assigned QoA be serviced first so there higher level information can be processed in a timely manner.

89. As per claim 23, as closely interpreted by the Examiner, Tokuyo teaches the at least one input transport stream identifier is one of the unique transport stream identifiers, (e.g. col. 4, lines 15 – 37, *“...assigns a unique identification number to the TCP...”* & col. 6, lines 5 – 26, *“IP packet, source and destination IP address, port number, unique identification number”*).

90. As per claim 23, as closely interpreted by the Examiner, Tokuyo teaches the step of using the multiple network messages further includes the step of:

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91. associating a first device of the plurality of devices with a second device of the multiple devices, wherein the at least one input transport stream identifier of the network message from the second device includes at least one unique transport stream identifier associated with the first device, (e.g. col. 7, line 59 – 4, “*src-IP, src-port number, dst-IP, dst-port number*” & col. 8, lines 34 – 49).

92. Claims 25 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokuyo and Rao as applied to claim 22 above, and in further view of Teraoka (6292836).

93. As per claim 25, as closely interpreted by the Examiner, Tokuyo and Rao do not specifically teach prior to the step of assigning, receiving a second network message from the plurality of devices, each second network message per device including an output transport stream identifier. Teraoka teaches prior to the step of assigning, receiving a second network message from the plurality of devices, each second network message per device including an output transport stream identifier, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine system of Tokuyo and Rao because it would be more convenient for a first device in a network to have the ability to move from one location to another while continual connection with a second device that the first device was communicating with, while having this process be transparent to both users.

94. As per claim 26, as closely interpreted by the Examiner, Tokuyo and Rao do not specifically teach the step of assigning further includes the step of:

95. using the output transport stream identifier included in each second network message from the plurality of devices to assign the unique transport stream identifier.

96. Teraoka teaches the step of assigning further includes the step of:

97. using the output transport stream identifier included in each second network message from the plurality of devices to assign the unique transport stream identifier, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine system of Tokuyo and Rao because of similar reasons stated above.

98. As per claim 27, as closely interpreted by the Examiner, Tokuyo teaches sending a mapping initiation message to a second plurality of devices included in the digital network, wherein the second plurality of devices includes the first plurality of devices, and each of the first plurality of devices respond to the mapping initiation message by sending the second network message, (e.g. col. 4, lines 15 – 37, “...*assigns a unique identification number to the TCP...*” & col. 6, lines 5 – 26, “*IP packet, source and destination IP address, port number, unique identification number*”), but does not specifically teach prior to the step of receiving the second network message, (e.g. col. 6, lines 20 – 35, “*VendPointAddr-B={VIP_C, port_C}*” & col. 6, line 54 – col. 7, line 8, “*VIP address of computer C=VIPaddr_C, IP address of computer C=IPaddr_D*”). It would have been obvious to one of ordinary skill in the art at the time the

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invention was conceived to combine Teraoka with the combine system of Tokuyo and Rao because it would be more efficient for a system to have a layout of the system it would be traversing in the network so the information that is being sent is received at it's destination with the least hops and/or failures encountered.

99. As per claim 28, as closely interpreted by the Examiner, Tokuyo does not specifically teach determining whether the first plurality of devices is the same as the second plurality of devices; and

100. responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message.

101. Rao teaches determining whether the first plurality of devices is the same as the second plurality of devices, (e.g. col. 20, lines 41 – 59); and

102. responsive to determining the first plurality of devices is not the same as the second plurality of devices, generating an alert message, (e.g. col. 20, lines 3 – 13 & 41 – 59). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Teraoka with the combine system of Tokuyo and Rao because it would be more secure if the system only gave specific access and privileges to users of a specific network. Also in doing so could block out potential invaders to a system.

103. Claims 29 – 32 are rejected for similar reasons as stated above.

104. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teraoka as applied to claim 33 above, and in view of Rao (6789118).

105. As per claim 37, as closely interpreted by the Examiner, Teraoka does not specifically teach the port is a plurality of input ports, each input port of the plurality of input ports receiving at least one transport stream having a transport stream identifier associated therewith, and the processor is adapted to monitor the transport stream identifier of each input transport stream and respond to changes thereto by generating the network message.

106. Rao teaches the port is a plurality of input ports, each input port of the plurality of input ports receiving at least one transport stream having a transport stream identifier associated therewith, and the processor is adapted to monitor the transport stream identifier of each input transport stream and respond to changes thereto by generating the network message, (e.g. col. 24, lines 18 – 34). It would have been obvious to one of ordinary skill in the art at the time the invention was conceived to combine Rao with Teraoka because if ports have the same identification number, errors in a system would occur because of the systems inability to differentiating between a plurality of ports in a system. Assigning a plurality of ports different identification numbers would make for a more efficient system that does not encounter errors because of similar port identification numbers.

107. As per claim 38, as closely interpreted by the Examiner, Teraoka teaches the network message includes the current transport stream identifier associated with each of the received input transport streams, (e.g. col. 6, lines 20 – 35).

Conclusion

108. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

109. a. Chung et al. U.S. Patent No. 6470389 discloses Hosting a network service on a cluster of servers using a single-address image.

110. b. Anerousis et al. U.S. Patent No. 6760775 discloses System, method and apparatus for network service load and reliability management.

111. c. Pearce et al. U.S. Patent No. 6556574 discloses Duplicate ignore delay timer for ARP like protocol messages using are protocol.

112. d. Civanlar et al. U.S. Patent No. 5996021 discloses Internet protocol relay network for directly routing datagram from ingress router to egress router.

113. e. Rochberger et al. U.S. Patent No. 6208623 discloses Method of combining PNNI and E-IISP in an asynchronous transfer mode network.

114. f. Wang et al. U.S. Patent No. 6826613 discloses Virtually addressing storage devices through a switch.

115. g. Ahmed et al. U.S. Patent No. 6765896 discloses Address option for use in an internet protocol-based multimedia mobile network.

116. h. Virgile U.S. Patent No. 5898686 discloses Network bridge with multicast forwarding table.

117. i. Shobatake U.S. Patent No. 6772219 discloses Message relaying scheme based on switching in units of flows.

118. j. James Knapp, Nortell Networks: The Complete Reference, 2000, The Osborne/McGraw-Hill Companies, 2000.
119. k. David James Clarke, IV, Novell's CNE Study Guide Intranet Ware/Net ware 4.11, 1997, Novell Press, 4.11.
120. l. Todd Lammle, Donald Porter, James Chellis; CCDA Cisco Certified Design Associate Study Guide, 2000, Sybex Inc., 640-441.

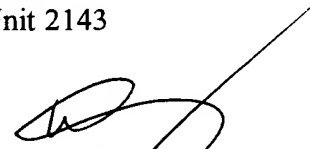
Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. England whose telephone number is 571-272-3912. The examiner can normally be reached on Mon-Thur, 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Examiner
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